



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,128	02/05/2004	James M. Thommes	ITW 7188.64	8416

23721 7590 05/04/2005

CORRIGAN LAW OFFICE  
5 BRIARCLIFF CT  
APPLETON, WI 54915

EXAMINER

SHAW, CLIFFORD C

ART UNIT	PAPER NUMBER
----------	--------------

1725

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/774,128	Applicant(s) THOMMES, JAMES M.	
	Examiner Clifford C. Shaw	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 25-30, 32-38, 40-46, 48-52, 54-61, 63-65, 67-70, 72, 74, 75 and 95-104 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-38, 40, 58-61, 67-70, 72, 74 and 75 is/are allowed.
- 6) ☒ Claim(s) 25, 41, 44-46, 48, 49, 54, 56, 57, 63, 65, 95 and 98-104 is/are rejected.
- 7) ☒ Claim(s) 26-30, 42, 43, 50-52, 55, 64, 96 and 97 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1228, 0211</u> | 6) <input type="checkbox"/> Other: _____  |

**Detailed Action**

1.) Applicant is advised that two papers entitled “Thermal Dynamics’ Supplemental Answers to Illinois Tool Works Inc. and Miller Elect. Mg. Co.s interrogatories nos. 3-6, 8, and 13-14” and “Second Amended Answer, Affirmative Defenses, and Counterclaims to Plaintiffs’ Second Amended Complaint” have been received and scanned into the imaged file wrapper of the instant application.

2.) The allowance of claims 25, 41, 44-46, 48, 49, 54, 56, 57, 63, 65, 95, and 98-104 in the previous Office action is withdrawn in view of a new interpretation of the prior art of record as set forth below.

3.) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.) Claim 104 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In lines 2-3 of claim 104, there is no antecedent basis for “the inductor”

5.) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1725

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6.) Claims 25, 41, 48, 49, 54, 63, and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over the UK patent application no. GB2258958A taken with any one of the Cardinale article ("Techniques for Improving Power Factor", cited by applicant), the Alberkrack et al. article ("Power Factor Controller IC Minimizes External Components", cited by applicant), or the Dixon article ("Optimizing the Design of a High Power Factor Switching Preregulator", cited by applicant). The UK patent application no. GB2258958A discloses a welding power source with features claimed, including: an input at 1 for changing ac from 3 into dc via elements 17; a converter at 4 receiving a control input via 28; and an output circuit at 2 and 32 providing output welding current. The UK patent application no. GB2258958A discloses a power supply that can receive a range of input voltages as discussed in the last paragraph of page 1: "The object of the present invention is to develop an electronic power system and a control method by means of which it is possible to supply a d.c. consumer with a voltage which can be controlled independently of voltage swings or different nominal voltage levels of the three phase network" and as discussed in the second full paragraph of page 10. The claims differ from the UK patent application no. GB2258958A in calling for a power factor correction signal to be provided to the converter and in calling for the power supply to be capable of receiving a range of input voltages spanning at least two input utility voltages. These differences do not patentably distinguish over the prior art. Although the UK patent application no. GB2258958A does not explicitly use the term "power factor correction", on pages 1-2 of his specification, he states that his invention

Art Unit: 1725

does result in "less phase displacement between the currents and voltages on the mains side". It is considered obvious that the arrangement of the UK patent application no. GB2258958A results in power factor correction in the manner claimed by applicant in view of any one of the Cardinale article, the Alberkrack et al. article, or the Dixon article which discloses circuitry that is the same as element 4 in the UK patent application no. GB2258958A used for active power factor correction. It is considered obvious that the "different nominal voltage levels of the three phase network" mentioned on page 1 of the UK patent application no. GB2258958A corresponds to different input utility voltages since utility voltages are standardized to assume certain mandated or "nominal" values. These values can be multiples of 2, satisfying the claim language of claim 95.

7.) Claims 44-46, 56, 57, 65, and 98-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over the UK patent application no. GB2258958A taken with any one of the Cardinale article, the Alberkrack et al. article, or the Dixon article as applied to the claims above, and further in view of the Japanese document no. 2-41778. The only aspects of the claims to which the rejection above does not apply are the provisions for the output circuit to include an inverter, rectifier or pulse width modulator. These differences do not patentably distinguish over the prior art. At the time applicant's invention was made, it would have been obvious to have used the arrangement of the UK patent application no. GB2258958A in conjunction with any conventional welding output circuitry. In particular, it would have been obvious to have used a welding load comprised of either an inverter, rectifier, or pulse width modulator, the motivation being the teachings of the Japanese document no. 2-41778 that such are advantageous at the

Art Unit: 1725

output of a welding power supply (see figure 1, elements 5, 6, 7, 33, and 34 in the Japanese document no. 2-41778).

8.) Claims 103 and 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over the UK patent application no. GB2258958A taken with any one of the Cardinale article, the Alberkrack et al. article, or the Dixon article taken with the Japanese document no. 2-41778 as applied to the claims above, and further in view of the patent to Redfern (3,614,592, previously cited). It would have been obvious to have incorporated a cycloconverter into the combination above, the motivation being the teachings of Redfern (3,614,592) that such is advantageous for a welding power supply.

9.) Claims 26-30, 42, 43, 50-52, 55, 64, 96, and 97 are objected to for depending from rejected claims, but would be given favorable consideration if recast in independent form to include all of the limitations of the parent claims. The prior art does not teach or suggest the limitations associated with the auxiliary power source as set forth in the claims.

10.) Claims 32-38, 40, 58-61, 67-70, 72, 74, and 75 are allowable over the prior art of record. The prior art of record does not teach or suggest the limitations associated with conversion of an input voltage to a first dc bus value with a magnitude higher than the input voltage as set forth in independent claims 32, 58, The prior art of record does not teach or suggest the limitations associated with the auxiliary power source as set forth in independent

Art Unit: 1725

claims 67, 69, 72, 74, and 75. The dependent claims are allowable at least because they depend from these independent claims.

11.) Applicant's "Remarks" in his amendment filed on 2/16/2005 have been carefully considered, but are not persuasive of patentability in view of the new grounds of rejection set forth above.

Any inquiry concerning this communication should be directed to Clifford C Shaw at telephone number 571-272-1182. The examiner can normally be reached on Monday through Friday of the first week of the pay period and on Tuesday through Friday of the second week of the pay period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas G. Dunn, can be reached at 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 1725

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Clifford C Shaw  
Primary Examiner  
Art Unit 1725

May 2, 2005